

**COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION**

PREFILED STAFF TESTIMONY

CENTRAL VIRGINIA ELECTRIC COOPERATIVE

For general rate relief

Public Version

Case No. PUR-2018-00125

February 26, 2019

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Morgan

PART A

SUMMARY OF JUSTIN M. MORGAN

My testimony addresses the following topics and makes the following findings and recommendations:

- Based on Staff's analysis, the Cooperative's requested increase of \$4,967,015 produces a Rate Year Times Interest Earned Ratio ("TIER") of 2.36. Based on Staff witness Maggi's testimony and recommended TIER range of 2.00-2.50, Staff believes the revenue requirement increase requested by the Cooperative to be reasonable.
- Staff recommends that the Cooperative provide detailed up-front support in future rate case applications that clearly demonstrates the services provided by Central Virginia Electric Cooperative ("CVEC") and Central Virginia Services Inc. ("CVSI") under the affiliate agreements are beneficial to the members of CVEC.
- Staff recommends the Cooperative periodically perform a time study to ensure that the amounts being billed to CVSI under the Management Services Affiliate Agreement properly reflect the time CVEC employees spend working on CVSI-related tasks.
- Staff calculated adjustments to reflect a Rate Year level of revenue, purchased power, O&M expense, and other income adjustments. The most significant difference between Staff and the Cooperative relates to Staff's proposed adjustment concerning "Other Revenues" to reflect amounts that will be billed to CVSI under the Management Services Affiliate Agreement.
- Other major differences discussed in this testimony relate to revenue and purchased power as a result of customer growth, payroll expense, and right-of-way expense.

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PREFILED TESTIMONY
OF
JUSTIN M. MORGAN
CENTRAL VIRGINIA ELECTRIC COOPERATIVE
CASE NO. PUR-2018-00125
FEBRUARY 26, 2019
PUBLIC VERSION
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PREFILED TESTIMONY

OF

JUSTIN M. MORGAN

CENTRAL VIRGINIA ELECTRIC COOPERATIVE

CASE NO. PUR-2018-00125

FEBRUARY 26, 2019

Introduction

1 **Q1. PLEASE STATE YOUR NAME AND THE POSITION YOU HOLD WITH**
2 **THE STATE CORPORATION COMMISSION ("COMMISSION").**

3 **A1. My name is Justin M. Morgan, and I am a Principal Utility Accountant with the**
4 **Commission's Division of Utility Accounting and Finance.**

5 **Q2. PLEASE PROVIDE A BRIEF DESCRIPTION OF CENTRAL VIRGINIA**
6 **ELECTRIC COOPERATIVE ("CVEC" OR "COOPERATIVE").**

7 **A2. CVEC is a member-owned electric distribution cooperative that serves**
8 **approximately 39,000 meters in the 14 Virginia counties of Albemarle, Amherst,**
9 **Appomattox, Augusta, Buckingham, Campbell, Cumberland, Fluvanna,**
10 **Goochland, Greene, Louisa, Nelson, Orange, and Prince Edward. The Cooperative**
11 **distributes energy to its members and purchases all of its electricity supply**
12 **requirements through various power supply contracts, PJM Interconnection LLC**
13 **("PJM"), and the Southeastern Power Administration ("SEPA").**

1 **Q3. PLEASE SUMMARIZE THE COOPERATIVE'S CURRENT**
2 **APPLICATION.**

3 **A3.** On August 8, 2018, the Cooperative filed the instant application ("Application")
4 for a general increase in rates. In its Application, the Cooperative requested a
5 jurisdictional revenue increase of \$4,967,015, reflecting an overall increase of 5.9%
6 and producing a 2.19 TIER. Based on its Rate Year analysis, the Cooperative
7 asserts that it can be reasonably predicted to earn a TIER of 1.16 based on currently-
8 approved rates. The Cooperative selected a test year ending December 31, 2017
9 ("Test Year"), and requested implementation of the proposed rates, subject to
10 refund, for bills rendered after November 1, 2018, yielding a rate year of
11 November 1, 2018 through October 31, 2019 ("Rate Year"). The Cooperative also
12 requested that, should the Commission determine that CVEC's proposed rates
13 generate a TIER above 2.19, the Commission approve the rates so long as the
14 resulting Rate Year TIER is within a reasonable range.

15 **Q4. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

16 **A4.** My testimony addresses the results of Staff's review of the Cooperative's rate
17 request and Staff's Rate Year analysis, including Staff's adjustments related to the
18 Central Virginia Services Inc. ("CVSI") billing, right-of-way clearing, payroll,
19 depreciation, revenues, and purchased power expense.

Q5. PLEASE IDENTIFY THE OTHER STAFF WITNESSES PRESENTING TESTIMONY IN THIS PROCEEDING.

A5. There are two other Staff witnesses filing testimony in this proceeding. Philip Maggi addresses the Cooperative's long-term interest expense and the appropriate TIER range to be used in the Rate Year analysis. Andrew Boehnlein addresses the Cooperative's rate design and cost of service study.

Rate Year Analysis

Q6. PLEASE IDENTIFY THE PRIMARY DRIVERS OF THE COOPERATIVE'S REQUEST FOR APPROVAL OF AN INCREASE IN CURRENT RATES.

A6. In the Application, the Cooperative cites the following as primary drivers of its requested rate increase: (1) wholesale power expenses,¹ driven by increases in transmission costs and winter peaks experienced in recent years; (2) increases in payroll and benefit costs; and (3) increases in other cost categories throughout its system.²

¹ Staff notes that power costs do not impact margins because the Cooperative's Power Cost Adjustment ("PCA") tariff equals power costs and revenues on a per books and fully adjusted basis. However, wholesale power costs do impact the total amounts that customers pay on their bills.

² Application at 3.

Q7. HAS STAFF REVIEWED THE COOPERATIVE'S RATE YEAR ANALYSIS AND PREPARED ITS OWN ANALYSIS REFLECTING STAFF'S FINDINGS?

A7. Yes. As illustrated in Statement I of my testimony, Staff's Rate Year analysis, including the Cooperative's proposed revenue increase, reflects a fully adjusted Rate Year TIER of 2.36. Staff witness Maggi supports a TIER range of 2.00-2.50. Based on Staff's analysis, the Cooperative's proposed revenue increase of \$4,967,015 is reasonable.

Q8. PLEASE IDENTIFY THE PRIMARY DRIVERS OF THE DIFFERENCES BETWEEN STAFF'S AND THE COOPERATIVE'S RATE YEAR ANALYSIS.

A8. The following table highlights the major differences between Staff's and the Cooperative's Rate Year analysis, based on the Cooperative's requested revenue increase of \$4,967,015. A complete reconciliation of the differences can be found in Statement III to my testimony.

Table 1

Revenue Requirement Reconciliation

<u>Line No.</u>	<u>Description</u>	<u>Amount</u>
1	Revenue Requirement Increase Per Company	\$ 4,967,015
2	Adjustment to reflect CVSI related Other Revenues	\$ (498,219)
	Other Revenue Adjustments	\$ 56,486
3	Payroll and Benefit Adjustments	\$ (162,946)
4	Right of Way Clearing	\$ (97,286)
5	Interest on Long-term Debt	\$ (72,997)
6	Other Expense Adjustments	\$ (32,499)
7	Revenue Required to reflect a 2.36 TIER	<u>\$ 807,461</u>
8	Revenue Requirement increase resulting in a 2.36 TIER	\$ 4,967,015

1 An explanation of Staff's adjustments follows.

Central Virginia Services Inc.

2 **Q9. WHAT ARE STAFF'S RECOMMENDATIONS CONCERNING CVSI?**

3 **A9.** Staff has the following findings and recommendations regarding CVSI:

- 4 1) Staff's adjustments to reflect revenues and expenses related to the fiber-
5 optic network result in a benefit to members.
- 6 2) Staff recommends that all CVSI related revenues and expenses be included
7 in the cost of service.
- 8 3) Staff recommends the Cooperative periodically perform a time study to
9 ensure that the amounts being billed to CVSI under the Management
10 Services Affiliate Agreement properly reflect the time CVEC employees
11 spend working on CVSI related tasks.

- 1 4) Staff recommends that the Cooperative provide detailed up-front support in
2 future rate case applications that clearly demonstrate the services provided
3 by CVEC and CVSI under the affiliate agreements are beneficial to the
4 members of CVEC.

5 Staff believes that these recommendations ensure that the services provided by
6 CVSI are beneficial, and continue to be beneficial, to CVEC's members.
7 Furthermore, Staff's recommendations will ensure that there is no cross
8 subsidization of CVSI's costs by CVEC's members.

9 **Q10. PLEASE PROVIDE A BRIEF DESCRIPTION OF CVSI.**

10 **A10.** CVSI is a wholly owned subsidiary of CVEC. CVSI currently has an affiliate
11 arrangement in place with CVEC for the purposes of establishing and maintaining
12 a fiber optic network ("network"). CVEC plans to construct the network in phases
13 over a five-year period with the purpose of enabling CVEC to monitor and control
14 its electric distribution system while also providing CVEC's members with access
15 to high-speed broadband internet access and related services in its service territory
16 through CVSI. The network will be constructed and owned by CVEC and leased
17 to CVSI. In addition, CVSI will be responsible for maintaining the network and
18 will provide internet services to CVEC and its members. The network is expected
19 to be completed within five years at a projected cost of [BEGIN
20 CONFIDENTIAL] [REDACTED] [END CONFIDENTIAL] CVSI will be billed
21 for management services and interest expense by CVEC before and after the fiber-
22 optic network is in service.

1 **Q11. PLEASE DISCUSS THE LEASE AGREEMENT BETWEEN CVEC AND**
2 **CVSI.**

3 **A11.** As stated previously, CVEC will own the network and will lease its components of
4 the network to CVSI per the terms of the agreement approved in Case No. PUR-
5 2018-00113. Once the network is in service CVEC will bill CVSI for principal and
6 interest cost related to the network assets plus a 2% margin. CVSI will bill CVEC
7 for the cost of providing service to the network being used by CVEC. CVSI will
8 also bill individual internet customers a monthly fee.

9 **Q12. WILL CVEC BE MADE WHOLE FOR THE COST OF THE NETWORK?**

10 **A12.** Yes, based the terms of the lease agreement CVEC will recover its costs plus a
11 margin.

12 **Q13. IS CVSI ANTICIPATED TO BE PROFITABLE IN THE NEAR FUTURE?**

13 **A13.** No, it is estimated that CVSI will need approximately 7 years of operation in order
14 to become profitable. As such, CVSI will be incurring losses during this time.
15 However, CVSI may be able to achieve positive margins in less than seven years
16 depending on the timing and amount of grants that CVSI and CVEC ultimately
17 receive. Any grants received by CVSI will be recognized as income for CVSI,
18 which increases the amount of profits reflected in CVEC's accounting records for
19 its ownership of CVSI. In addition, any grants received by CVEC will reduce the
20 cost of CVEC's network investment and the amount that CVSI must pay CVEC.

1 Q14. PLEASE DISCUSS THE COOPERATIVE'S AFFILIATE AGREEMENTS
2 WITH CVSI THAT WERE RECENTLY APPROVED IN CASE NO. PUR-
3 2018-00113.

4 A14. Recently, in Case No. PUR-2018-00113, the Commission approved four affiliate
5 agreements between CVEC and CVSI. The agreements included in this approval
6 were a: (1) Management Services Agreement; (2) Fiber Optic Lease Agreement;
7 (3) Broadband Network Services Subscriber Agreement; and (4) Line of Credit
8 Agreement.

9 Q15. PLEASE DISCUSS THE COMMISSION'S FINAL ORDER IN CASE NO.
10 PUR-2018-00113.

11 A15. On October 23, 2018, the Commission issued its Final Order in Case No.
12 PUE-2018-00113,³ approving the Cooperative's Affiliate agreements subject to ten
13 requirements set forth in an appendix. The requirements set forth in the appendix
14 attached to the Affiliate Order required, among other things, that:

15 *(5) The Applicants shall be required to maintain records demonstrating that*
16 *the services provided by CVEC to CVSI, and the services provided by CVSI*
17 *to CVEC, under the Agreements are cost beneficial to the members of*
18 *CVEC...*

19 *and...*
20

21
22 *(10) CVEC shall file with the Commission within 90 days of the date of this*
23 *order documentation showing the requirements of... 20 VAC 5-203-30... of*
24 *the Commission's Regulations are being met.*
25

³ Application of Central Virginia Electric Cooperative and Central Virginia Services Inc, For approval of affiliate agreements, Case No. PUE-2018-00113, Doc. Con. Cen. No. 181050207, Final Order (Oct. 23, 2018) ("Affiliate Order").

1 In, short, this language included in the appendix requires: (1) that services provided
 2 to either party under the agreement are cost beneficial to CVEC's rate payers; and
 3 (2) the Cooperative must demonstrate its compliance with 20 VAC 5-203-30 of the
 4 Commission's Regulations Governing the Separation of Regulated and Unregulated
 5 Businesses of Utility Consumer Services Cooperatives and Utility Aggregation
 6 Cooperatives, 20 VAC 5-203-10 *et seq.*

7 **Q16. HOW DOES THE COOPERATIVE INTEND TO ENSURE THE SERVICES**
 8 **PROVIDED BY CVEC AND CVSI ARE BENEFICIAL TO THE MEMBERS**
 9 **OF CVEC?**

10 **A16.** The Affiliate Order in Case No. PUR-2018-00113 also specified that:

11 *CVEC shall bear the burden of proving, in any rate proceeding, that it*
 12 *charged the higher of cost or market for all services provided to CVSI, and*
 13 *paid the lower of cost or market for all services received from CVSI,*
 14 *pursuant to the Agreements.*

15
 16 The Cooperative indicated that it intends to perform comparisons of actual to
 17 market costs for all services provided by CVEC and CVSI, no less than once per
 18 year, and that records of these comparisons will be documented.⁴ It is imperative
 19 that the Cooperative maintain sufficient records so that Staff will be able to
 20 adequately assess the Cooperative's compliance with this requirement set forth in
 21 the Affiliate Order. Staff will examine these costs in future regulatory proceedings
 22 to ensure that CVEC customers benefit from the affiliate agreements.

⁴ Data Response No. 56

1 **Q17. WHAT REQUIREMENTS ARE SET FORTH IN 20 VAC 5-203-30.**

2 **A17.** Among other things, 20 VAC 5-203-30 states the following:

3 *A. The following practices are prohibited:*

4
5 *1. Cost shifting or cross subsidies between a cooperative and its nonregulated*
6 *affiliates;*

7 In other words, the Cooperative is required to appropriately reflect the costs that
8 are attributable to CVEC and CVSI within the respective accounting records for
9 each entity.

10 **Q18. PLEASE DISCUSS STAFF'S RECOMMENDATION TO INCLUDE ALL**
11 **CVSI RELATED REVENUES AND EXPENSES IN CVEC'S BASE RATE**
12 **COST OF SERVICE?**

13 **A18.** The Cooperative has not included any revenues related to CVSI billings in the Rate
14 Year. However, the Cooperative has included costs in the Rate Year that will be
15 billed to CVSI under the management services agreement during the Rate Year.
16 These costs include (1) management payroll and benefit costs allocable to CVSI-
17 related tasks; (2) depreciation of the office buildings used by this same
18 management; and (3) depreciation of the office buildings rented from CVEC for
19 certain operational and customer service functions to CVSI for its employees. Staff
20 Adjustment No. 24 adjusts revenues to reflect Rate Year amounts that will be billed
21 to CVSI during the Rate Year. This adjustment is necessary to properly match
22 CVSI revenues with the level of CVSI related costs included in CVEC's cost of
23 service.

1 **Q19. PLEASE DISCUSS STAFF ADJUSTMENT NO. 24 TO OTHER**
 2 **REVENUES.**

3 **A19.** Staff's adjustment No. 24 accomplishes the following: (1) proper recognition of
 4 amounts that are reasonably predicted to be collected from CVSI during the Rate
 5 Year; and (2) compliance with 20 VAC 5-203-30 as directed in the Affiliate Order.
 6 Staff calculated the Rate Year level based on the actual billings from November
 7 2018 and December 2018 (the first two months of the Rate Year) and a pro-rata
 8 amount of the Cooperative's estimated Management Services billings for the 2019
 9 calendar year.⁵ In short, this amount represents Staff's estimated amount of
 10 proceeds that the Cooperative is reasonably predicted to receive during the Rate
 11 Year in this case. Under the Cooperative's ratemaking treatment, the costs that will
 12 be recovered under the Management Services agreement would be recovered from
 13 both CVSI and members. These costs are appropriately recovered from CVSI only.
 14 Therefore, the costs to be billed to CVSI should be excluded from cost of service
 15 in this proceeding. In addition, Staff's adjustment is necessary in order for the
 16 Cooperative to comply with 20 VAC 5-203-30 as directed in the Affiliate Order.
 17 Staff's Adjustment No. 24 increases other revenues by \$498,219.

⁵ Under the Management Services Agreement, CVEC will recover from CVSI: (1) payroll and benefit costs based on the hours CVEC management spends working on CVSI- related tasks; (2) an allocated share of depreciation of the office buildings used by management; (3) Accounts Payable paid by CVEC on behalf of CVSI; (4) rent for unused office space from CVEC for certain operational and customer service functions and for CVSI employees; and (5) a 5% margin on all amounts billed to CVSI from CVEC.

1 **Q20. DOES STAFF HAVE ANY ADDITIONAL RECOMMENDATIONS**
2 **REGARDING THE AMOUNTS TO BE RECOVERED UNDER THE**
3 **MANAGEMENT SERVICES AGREEMENT?**

4 **A20.** Yes. Currently CVEC bills CVSI based on each employee's estimate of time spent
5 working on CVSI-related tasks. Staff recommends the Cooperative periodically
6 perform a time study to confirm that the time estimates being reported by
7 employees are representative of the actual time spent. In addition, for time that is
8 not specifically attributable to a particular entity, such general time should be
9 properly allocated among all benefitting entities using an appropriate cost driver as
10 the allocator. This will assure that the amounts being billed to CVSI properly
11 reflect the time CVEC employees spend working on CVSI-related tasks.

12 **Q21. DOES STAFF HAVE ANY RECOMMENDATIONS REGARDING THE**
13 **FINAL ORDER IN CASE NO. PUR-2018-00113?**

14 **A21.** Yes. As previously discussed, the Final Order in that proceeding required that
15 services provided to CVEC and CVSI under the agreements are cost beneficial to
16 CVEC's rate payers. Accordingly, Staff recommends that the Cooperative provide
17 detailed up-front support in future rate case applications that clearly demonstrates
18 the Cooperative has complied with this requirement.

19 **Q22. PLEASE DISCUSS THE COOPERATIVE'S CURRENTLY APPROVED**
20 **AFFILIATE AGREEMENTS WITH CVSI IN MORE DETAIL.**

1 A22. As previously discussed, the Cooperative's currently approved agreements are a:
2 (1) Management Services Agreement; (2) Fiber Optic Lease Agreement; (3)
3 Broadband Network Services Subscriber Agreement; and (4) Line of Credit
4 Agreement. A discussion of each follows:

5 *Management Services Agreement*

6 Under the Management Services Agreement, CVEC will recover from
7 CVSI: (1) payroll and benefit costs based on the hours CVEC management spends
8 working on CVSI-related tasks; (2) an allocated share of depreciation of the office
9 buildings used by management; (3) Accounts Payable paid by CVEC on behalf of
10 CVSI; (4) rent for unused office space from CVEC for certain operational and
11 customer service functions and for CVSI employees; and (5) a 5% margin on all
12 amounts billed to CVSI from CVEC. Staff's fully adjusted cost of service includes
13 a full going forward level of payroll, benefits, and depreciation on office buildings.
14 Staff's fully adjusted cost of service also includes a going forward level of "Other
15 Revenues" based on actual and budgeted amounts to be received during the Rate
16 Year.

17 *Fiber Optic Lease Agreement*

18 Under the Fiber Optic Lease Agreement, CVEC will construct and lease its
19 fiber network to CVSI, which will also maintain and operate CVEC's fiber network.
20 CVSI will utilize the fiber network to provide all substation communications and
21 other services to CVEC, and to provide broadband internet services to customers.

1 CVSI will remit a monthly lease payment based on a formula that is equal to
2 CVEC's full debt service for loans issued to finance the fiber network plus 2%. No
3 costs or revenues related to this agreement are included in Staff's fully adjusted
4 Cost of Service due to the fact that the Company has not yet placed its fiber assets
5 into service, nor have they billed CVSI for any of the related costs.

6 *Broadband Network Services Agreement*

7 Under the Broadband Network Services Agreement, CVEC will be a
8 consumer of broadband services from CVSI at its offices, substations, and downline
9 equipment locations. CVEC will receive these services generally on the same terms
10 as other customers, with additional terms being added for electric utility service.
11 CVEC will remit a monthly payment to CVSI for this service that is based on a
12 formula for equipment utilized. No expense related to this agreement is included
13 in Staff's fully adjusted Cost of Service.

14 *Line of Credit Agreement*

15 Under the proposed Line of Credit Agreement, CVEC and CVSI will enter
16 into a \$10 million short-term line of credit agreement to provide working capital to
17 CVSI on an as needed basis. No interest expense or revenues related to this
18 agreement are included in Staff's fully adjusted Cost of Service.

Payroll, Benefits and Payroll Tax Adjustments

1 **Q23. PLEASE DESCRIBE STAFF'S ADJUSTMENT NO. 10 TO REFLECT**
 2 **RATE YEAR PAYROLL EXPENSE.**

3 **A23.** Staff's Adjustment No. 10 increases payroll expense by \$1,001,086, which is
 4 \$121,082 less than the Cooperative's adjustment of \$1,122,168. The primary
 5 drivers of this difference are (1) Staff's incorporation of all filled positions as of
 6 September 30, 2018; (2) exclusion of the portion of the projected management
 7 salary increases that falls outside the Rate Year; and (3) inclusion of the Rate Year
 8 effect of the salary increase projected to occur on July 1, 2019.

9 Staff updates actual payroll by annualizing payrates as of September 30,
 10 2018, which recognizes pay increases that occurred on July 1, 2018, and the hiring
 11 of two new employees that occurred after the end of the Test Year. Staff does not
 12 include the Cooperative's projected new hire. In communication dated January 28,
 13 2019, the Cooperative stated the position has not been filled. While Staff
 14 recognizes that it is possible this position could be filled during the Rate Year, Staff
 15 also recognizes that retirements or other employee departures could occur as well.
 16 Accordingly, Staff believes that the Cooperative's filled positions are an appropriate
 17 method of predicting the level that will reasonably occur during the Rate Year. The
 18 incorporation of all filled positions as of September 30, 2018, accounts for a
 19 difference between Staff's and the Cooperative's payroll adjustment of \$55,615.

20 Staff also includes a prorated portion of the projected management salary
 21 increases set for July 1, 2019. The Cooperative's original adjustment included an
 22 annual amount of management salary increases even though the increase occurs

1 during only four months of the Rate Year. This treatment is appropriate because
2 the excluded amount represents costs that will occur subsequent to the Rate Year.
3 This exclusion accounts for a difference between Staff's and the Cooperative's
4 payroll adjustment of \$108,992.

5 Finally, Staff includes the Rate Year effect of the 3% Cooperative-wide
6 non-management salary increase projected to occur on July 1, 2019, whereas the
7 Cooperative did not. On December 19, 2018, the Cooperative's Board of Directors
8 approved a payroll budget which included a 3% raise to employee pay rates to be
9 effective July 1, 2019. Because Staff believes this raise is reasonably predicted to
10 occur during the Rate Year, Staff has included four months of this payroll increase
11 in its Rate Year payroll. This inclusion accounts for a difference between Staff's
12 and the Cooperative's payroll adjustment of \$59,576.

13 The following table summarizes the differences between Staff and the
14 Cooperative's Payroll Adjustments.

Table 2

Payroll Adjustment - Reconciliation

<u>Line No.</u>	<u>Description</u>	<u>Amount</u>
1	Company Payroll Adjustment	\$ 1,122,181
2	Plus: Rate Year 3% Merit Increase	\$ 59,576
3	Less: Unfilled Vacancies	\$ (55,615)
4	Less: Rate Year Effect of July 19 Raise	\$ (108,992)
5	Other (Updated Pay Rates Exc.)	<u>\$ (16,064)</u>
6	Staff Payroll Adjustment	\$ 1,001,086

1 **Q24. PLEASE SUMMARIZE THE CAUSE OF THE COOPERATIVE'S**
2 **INCREASES IN PAYROLL COSTS SUBSEQUENT TO THE TEST YEAR.**

3 **A24.** The primary causes for the Cooperative's increases in payroll costs are as follows:

4 (1) July 2018 and July 2019 board approved salary increases are related to merit
5 increases and a compensation study performed by the Cooperative; (2) the inclusion
6 of five new positions in the Rate Year payroll; (3) the advancement of Line
7 Technicians through the Cooperative's CVC Apprenticeship Program; and (4) a
8 Rate Year performance award of 2% which exceeded the Test Year award of 1.5%.

Q25. PLEASE EXPLAIN THE DIFFERENCES BETWEEN STAFF'S AND THE COOPERATIVE'S ADJUSTMENT TO BENEFITS AND PAYROLL TAX EXPENSE.

A25. Staff's Adjustment No. 11 increases benefits and payroll tax expense by \$285,931, which is \$41,864 less than the Cooperative's Adjustment 11. The difference between these adjustment is primarily due to Staff's lower Rate Year level of payroll.

The following table summarizes the differences between Staff and the Cooperative's Rate Year Benefits and Payroll Tax Adjustments:

Table 3

Line No.	Description	Difference
1	Healthcare Allowance	\$ (10,687)
2	401k Matching	\$ (4,903)
3	Disability and Life Insurance	\$ -
4	Fica Taxes	\$ (9,901)
5	Medicare Taxes	\$ (2,449)
6	401k Safe Harbor	\$ (8,980)
7	401k Non-elective	\$ (1,095)
8	Workers Compensation	\$ (3,849)
9	FAS 106	\$ -
10	Total	\$ (41,864)

Right of Way Expense

1 **Q26. PLEASE DESCRIBE STAFF'S ADJUSTMENT 22 TO RIGHT-OF-WAY**
 2 **CLEARING EXPENSE.**

3 **A26.** Staff's Adjustment No. 22 decreases right of way expense by \$97,286 to reflect the
 4 amount of expenses that can be reasonably predicted to occur during the Rate Year.
 5 Due to the cyclical nature and variability of right-of-way clearing expense, Staff
 6 believe it is appropriate to normalize right-of-way clearing. Staff's adjustment
 7 compares a Rate Year level is based on a three-year average of expenses for the
 8 years of 2015, 2016, and 2017, to the Test Year amount to calculate the adjustment.⁶
 9 In this proceeding the Cooperative has proposed to leave right-of-way clearing
 10 expense at a Test Year level.

Revenue & Purchased Power Adjustments

11 **Q27. PLEASE EXPLAIN THE DIFFERENCES BETWEEN STAFF'S AND THE**
 12 **COOPERATIVE'S ADJUSTMENTS TO BASE RATE REVENUES AND**
 13 **RIDER SURCHARGE REVENUES.**

14 **A27.** Staff's adjustments decrease operating revenues by \$50,564 less than the
 15 Cooperative's adjustments. The following table outlines the differences between
 16 Staff and the Cooperative's Revenue adjustments:

⁶ Staff believes a Rate Year average based on three years is appropriate due to the fact the Cooperative changed its right-of-way clearing approach in 2015 to be more proactive.

Table 4

Line No.	Description	Staff	Cooperative	Difference
1	Adj. 1: Remove Revenue Accrual	\$ (653,945)	\$ (653,945)	\$ -
2	Adj. 2: Recalculation of TY Billing Units	\$ 565,288	\$ 565,288	\$ -
3	Adj. 3: Customer Growth	\$ 553,316	\$ 685,412	\$ (132,096)
4	Adj. 4: kWh Growth	\$ 2,099,936	\$ 1,997,343	\$ 102,593
5	Adj. 5: Alignment of Transco	\$ 134,804	\$ 134,804	\$ -
6	Adj. 6: WPCA Adj	\$ 5,744,061	\$ 5,765,122	\$ (21,061)
7	Total Revenue Adjustments	\$ 8,443,460	\$ 8,494,024	\$ (50,564)

As shown above, Adjustment Nos. 3 and 4 are the primary differences between Staff and the Cooperative's rate year revenue amounts. The primary driver of these differences is due to the fact the Cooperative: (1) left Large Power and Commercial and Industrial rate classes at a Test Year level; (2) annualized the GS-1 rate class based on the end of year customer count, (3) annualized residential revenues based on the estimated 2018 customer counts taken from the Power Requirement Study; and (4) utilized a slightly lower average usage per customer amount for the residential class based on its Power Requirement Study. Staff instead utilized customer counts as of September 30, 2018, to annualize the residential and GS-1 rate classes and updated the Large Power and Commercial and Industrial rate classes to Twelve Months Ending ("TME") September 30, 2018. In addition, Staff used a seven-year average to calculate the rate year average usage per customer for the residential rate class. A discussion of the revenue adjustment by customer class follows.

1 *Residential*

2 The Cooperative utilized an average usage per customer amount from a
3 Power Requirement Study to develop the Rate Year level of billing determinants
4 for the residential rate class. The Power Requirement Study was based on energy
5 and peak demand requirements for the Rate Year and were based on econometric
6 and regression modeling of historical data from 1997 – 2017. There were two types
7 of inputs used in the Cooperative's Power Requirement Study, weather and
8 economics.

9 The weather input of the Cooperative's calculation was based on a 20-year
10 simple average of heating and cooling degree days. The Cooperative performed a
11 regression based on 27-years of usage to develop a correlation between the change
12 in degree days to the change in customer usage. The economic input of the
13 Cooperative's calculation was based on: (1) an Electric Appliance Market Share
14 Index; and (2) price elasticity. The following table summarizes the Average Usage
15 Per Customer from 2012-2018:

Table 5

Line No.	Description	Amount
1	2012 Average Usage Per Customer	1,226
3	2013 Average Usage Per Customer	1,264
4	2014 Average Usage Per Customer	1,304
5	2015 Average Usage Per Customer	1,270
6	2016 Average Usage Per Customer	1,205
7	2017 Average Usage Per Customer	1,197
8	2018 Average Usage Per Customer	1,293
9	Average	1,251
10	Power Requirement Study Usage-Per-Customer	1,248

As illustrated by the above table the Test Year average usage per customer is unusually low in relation to other years. Based on this analysis, Staff believes that average usage per customer based on a seven-year average is a reasonable method, in this instance, for predicting what will occur during the Rate Year for the residential class.

GS-1

The difference between Staff and the Cooperative's calculation of the GS-1 rate class is that Staff utilized customer counts as of September 30, 2018, and Test Year average usage, whereas the Cooperative annualized customers as of the end of the Test Year based on Test Year average usage.

Large Power and Commercial and Industrial

1 The difference between Staff and the Cooperative's calculation of the Large
2 Power and Commercial and Industrial rate classes is that Staff utilized the TME
3 September 30, 2018 usage, whereas the Cooperative left these classes at a Test Year
4 level.

5 **Q28. PLEASE EXPLAIN WHY STAFF'S UPDATE OF THE GS-1, LARGE**
6 **POWER, AND COMMERCIAL AND INDUSTRIAL RATE CLASSES IS**
7 **APPROPRIATE.**

8 **A28.** Staff believes that usage based on more recent information as of September 30,
9 2018, is more representative of what will occur during the Rate Year. Furthermore,
10 this methodology better aligns these rate classes' customer usage with the updated
11 cost of service plant and other expense adjustments.

12 **Q29. PLEASE EXPLAIN THE DIFFERENCES BETWEEN STAFF'S AND THE**
13 **COOPERATIVE'S ADJUSTMENTS TO PURCHASED POWER.**

14 **A29.** Staff's Adjustment No. 7 increases purchased power expense by \$8,024,557, which
15 is \$8,270 less than the Cooperative's Adjustment 7. Staff's methodology is the same
16 as the Cooperative's, which adjusts purchased power to reflect the same Rate Year
17 kWh consumption that Staff used to adjust revenues, grossed up for line losses.
18 Thus, the difference between Staff's and the Cooperative's adjustments to purchased
19 power is driven by the same differences in Rate Year kWh usage described
20 previously with the revenue adjustments.

1 **Q30. WHAT IS THE OVERALL EFFECT ON THE REVENUE REQUIREMENT**
2 **AS A RESULT OF THE DIFFERENCES BETWEEN STAFF'S AND THE**
3 **COOPERATIVE'S ADJUSTMENTS TO REVENUE AND PURCHASED**
4 **POWER?**

5 **A30.** Because the differences are primarily driven by the differences in the Rate Year
6 number of customers and kWh consumption, the net effect of the revenue and
7 purchased power adjustments on the revenue requirement can be viewed as the total
8 difference due to Staff's updates for customer growth. As illustrated in my
9 Statement IV, this difference increases the overall cost of service by \$34,576 less
10 than the Cooperative's adjustments.

Plant and Depreciation Expense Adjustments

11 **Q31. PLEASE EXPLAIN THE DIFFERENCES BETWEEN STAFF'S AND THE**
12 **COOPERATIVE'S ADJUSTMENTS TO RATE BASE COMPONENTS.**

13 **A31.** Staff's rate base adjustments update net utility plant, deferred fuel, and customer
14 deposits/advances to the actual balances as of September 30, 2018. Staff's total rate
15 base adjustments increase rate base by \$1,645,110 more than the Cooperative's
16 adjustments.

17 **Q32. PLEASE EXPLAIN THE DIFFERENCES BETWEEN STAFF'S AND THE**
18 **COOPERATIVE'S ADJUSTMENTS TO DEPRECIATION EXPENSE.**

19 **A32.** Staff's adjustment differs from the Cooperative's adjustment for two primary
20 reasons. First, Staff used depreciable plant balances as September 30, 2018,

1 whereas the Cooperative utilized balances as of April 30, 2018. Second, Staff
 2 excluded fully depreciated plant from its calculation of depreciation expense.⁷ The
 3 impact of these two differences largely offset, resulting in Staff's adjustment being
 4 \$20,601 higher than the Cooperative's adjustment. Staff's adjustment increases
 5 depreciation expense by \$404,079.

Other O&M Expense Adjustments

6 **Q33. PLEASE EXPLAIN THE DIFFERENCES BETWEEN STAFF'S AND THE**
 7 **COOPERATIVE'S ADJUSTMENTS TO NORMALIZE REGULATORY**
 8 **EXPENSE.**

9 **A33.** Staff's Adjustment No. 12 normalizes regulatory expense from 2014-2018 over a
 10 five-year period, while the Cooperative normalized the estimate rate case expenses
 11 over a three-year period. Staff's longer normalization period reflects the relative
 12 infrequency with which the Cooperative has historically filed rate cases. In
 13 addition, Staff's adjustment uses updated projections of regulatory expenses. As a

⁷ Staff notes CVEC discontinues accruing book depreciation on these assets once they are fully depreciated.

1 result of these differences, Staff's Adjustment No. 13 increases regulatory expense
2 by \$71,349, which is \$2,493 less than the Cooperative's increase of \$73,842.

Community Solar

3 **Q34. PLEASE DISCUSS THE COOPERATIVE'S ADJUSTMENTS TO**
4 **COMPLY WITH THE COMMISSION'S ORDER IN CASE NO. PUR-2017-**
5 **00165.**

6 **A34.** In Case No. PUR-2017-00165 the Commission approved the Cooperative's
7 Community Solar Program.⁸ Ordering Paragraph (1) of the Commission's Final
8 Order in that proceeding adopted a requirement that CVEC clearly remove
9 Community Solar Tariff investment, expenses, and revenues in order to facilitate
10 the analysis of proposed base rate changes in base rate proceedings. The
11 Cooperative has complied with this requirement by making an adjustment to
12 remove Test Year costs related to a firm that was hired to assist with the creation
13 and marketing of the program. The Cooperative has only recently begun enrolling
14 members in the Community Solar tariff. Accordingly, Staff will continue to
15 evaluate the related revenues and costs in future regulatory proceedings to ensure
16 that the Cooperative maintains compliance with the requirements of the
17 Commission's Final Order in Case No. PUR-2017-00165.

⁸ *Application of Central Virginia Electric Cooperative, For approval of a community solar tariff, Case No. PUR-2017-00165, Final Order (May 8, 2018).*

Cushion of Credit

1 **Q35. PLEASE DISCUSS THE COOPERATIVE'S PARTICIPATION IN THE**
 2 **RURAL UTILITIES SERVICE'S (RUS) CUSHION OF CREDIT ("CC")**
 3 **PROGRAM.**

4 **A35.** The Cooperative, when it has excess cash, will participate in the RUS's CC program
 5 on rare occasions. However, the Cooperative has never deposited more in the CC
 6 account than is required to service its RUS debt payments annually. In addition,
 7 the Cooperative has only used the CC account twice from 2010-2017. Based on
 8 these facts, the evidence indicates that the funds the Cooperative deposits in the CC
 9 account have not resulted in excess debt beyond levels currently needed for capital
 10 expenditures or daily operations. In other words, the Cooperative is not taking on
 11 additional debt for the purposes of investing in the CC program, thus Staff is not
 12 proposing any adjustment in this instance.

Conclusion

13 **Q36. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.**

14 **A36.** Staff makes the following findings and recommendations:

15 1) Based on Staff's analysis, the Cooperative's requested increase of
 16 \$4,967,015 produces a Rate Year TIER of 2.36. Based on Staff witness
 17 Maggi's testimony and recommended TIER range of 2.00 to 2.50, Staff
 18 believes the Cooperative's requested increase to be reasonable.

19 2) Staff recommends the Cooperative periodically perform a time study to
 20 ensure that the amounts being billed to CVSI under the Management

1 Services Affiliate Agreement properly reflect the time CVEC employees
2 spend working on CVSI related tasks. In addition, for time that is not
3 specifically attributable to a particular entity, such general time should be
4 properly allocated among all benefitting entities using an appropriate cost
5 driver as the allocator.

6 3) Staff recommends that the Cooperative provide detailed up-front support in
7 future rate case applications that clearly demonstrate the services provided
8 by CVEC and CVSI under the affiliate agreements are beneficial to the
9 members of CVEC.

10 4) Staff recommends that the Commission find Staff's adjustments just and
11 reasonable for ratemaking purposes.

12 **Q37. DOES THIS CONCLUDE YOUR TESTIMONY?**

13 **A37.** Yes, it does.

APPENDIX A

STAFF SCHEDULES

Statement I – Financial Status Statement – Per Books and Fully Adjusted

Statement II – Rate Base Statement – Per Books and Fully Adjusted

Statement III – Revenue Requirement Reconciliation

Statement IV – Schedule of Rate Year Adjustments

CENTRAL VIRGINIA ELECTRIC COOPERATIVE
FINANCIAL STATUS STATEMENT - PER BOOKS AND FULLY ADJUSTED
FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2017

Line No.	Description	(Col. 1) Total Cooperative Per Books	(Col. 2) Adjustments Due to Rate-making Requirements	(Col. 3) Total Cooperative As Adjusted	(Col. 4) Non-Virginia Jurisdictional Business	(Col. 5) Virginia Jurisdictional Business	(Col. 6) Rate-making Adjustments	(Col. 7) Amounts After Adjustments	(Col. 8) Revenue Requirements	(Col. 9) Amounts After Revenue Requirements
Operating Revenues										
1	Base Rate Revenues	\$ 80,328,996	\$ -	\$ 80,328,996	\$ 2,355,693	\$ 77,971,303	\$ 2,699,399	\$ 80,670,702	\$ 4,967,015	\$ 85,637,717
2	PCA Revenues	\$ (1,711,608)	\$ -	\$ (1,711,608)	\$ (63,318)	\$ (1,648,290)	\$ 5,744,061	\$ 4,095,771	\$ -	\$ 4,095,771
3	Roll In Riders	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4	Riders (Last Separately)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Margin Stabilization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6	Other Electric Revenues	\$ 1,288,609	\$ -	\$ 1,288,609	\$ 63,778	\$ 1,224,831	\$ -	\$ 1,224,831	\$ -	\$ 1,224,831
7	Subtotal	\$ 79,903,997	\$ -	\$ 79,903,997	\$ 2,356,153	\$ 77,547,844	\$ 8,443,460	\$ 85,991,304	\$ 4,967,015	\$ 90,958,319
Operating Expenses										
8	Purchased Power Expense	\$ 47,278,730	\$ -	\$ 47,278,730	\$ 1,609,732	\$ 45,668,999	\$ 8,024,557	\$ 53,694,556	\$ -	\$ 53,694,556
9	Other Power Costs	\$ 677,875	\$ -	\$ 677,875	\$ 28,135	\$ 651,540	\$ 87	\$ 651,607	\$ -	\$ 651,607
10	Margin Stabilization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	Subtotal	\$ 47,957,405	\$ -	\$ 47,957,405	\$ 1,635,867	\$ 46,321,538	\$ 8,024,624	\$ 54,346,162	\$ -	\$ 54,346,162
12	O&M Expense	\$ 17,708,419	\$ -	\$ 17,708,419	\$ 278,287	\$ 17,428,122	\$ 1,737,823	\$ 19,165,944	\$ -	\$ 19,165,944
13	Depreciation and Amortization	\$ 6,753,402	\$ -	\$ 6,753,402	\$ 114,028	\$ 6,639,376	\$ 404,079	\$ 7,043,455	\$ -	\$ 7,043,455
14	Tax Expense - Property	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15	Tax Expense - Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
16	Total Operating Expenses	\$ 72,417,226	\$ -	\$ 72,417,226	\$ 2,028,190	\$ 70,389,036	\$ 10,166,526	\$ 80,555,562	\$ -	\$ 80,555,562
17	Operating Margins	\$ 7,486,771	\$ -	\$ 7,486,771	\$ 327,963	\$ 7,158,808	\$ (1,723,068)	\$ 5,435,742	\$ 4,967,015	\$ 10,402,757
18	Less: Interest on Customer Deposits	\$ 8,261	\$ -	\$ 8,261	\$ 114	\$ 8,147	\$ 2	\$ 8,149	\$ -	\$ 8,149
19	Less: Charitable Contributions	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20	Adjusted Operating Margins	\$ 7,478,510	\$ -	\$ 7,478,510	\$ 327,849	\$ 7,150,661	\$ (1,723,068)	\$ 5,427,593	\$ 4,967,015	\$ 10,394,608
21	Plus: Capital Credits Accrued	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
22	Plus: Other Income	\$ 436,722	\$ -	\$ 436,722	\$ 12,999	\$ 423,723	\$ 471,358	\$ 895,081	\$ -	\$ 895,081
23	Less: Interest on Long Term Debt	\$ 4,725,711	\$ -	\$ 4,725,711	\$ 91,408	\$ 4,634,303	\$ 149,238	\$ 4,783,541	\$ -	\$ 4,783,541
24	Less: Other Interest Expense	\$ 71,681	\$ -	\$ 71,681	\$ 482	\$ 71,199	\$ (45,116)	\$ 26,084	\$ -	\$ 26,084
25	Less: Other Expense	\$ (30,391)	\$ -	\$ (30,391)	\$ (485)	\$ (29,905)	\$ -	\$ (29,905)	\$ -	\$ (29,905)
26	Total Margins	\$ 3,148,231	\$ -	\$ 3,148,231	\$ 249,444	\$ 2,898,787	\$ (1,358,832)	\$ 1,540,955	\$ 4,967,015	\$ 6,509,970
Rate Base										
27	Net Utility Plant	\$ 174,512,963	\$ -	\$ 174,512,963	\$ 2,678,753	\$ 171,834,210	\$ 4,548,667	\$ 176,383,077	\$ -	\$ 176,383,077
28	Allowance for Working Capital	\$ 6,634,250	\$ -	\$ 6,634,250	\$ 134,304	\$ 6,499,946	\$ 139,576	\$ 6,639,522	\$ -	\$ 6,639,522
29	- Other Rate Base Deductions	\$ 5,437,269	\$ -	\$ 5,437,269	\$ 49,314	\$ 5,387,955	\$ (72,343)	\$ 5,315,612	\$ -	\$ 5,315,612
30	Total Rate Base	\$ 175,769,344	\$ -	\$ 175,769,344	\$ 2,763,743	\$ 172,946,201	\$ 4,760,787	\$ 177,708,988	\$ -	\$ 177,708,988
31	TIER	1.57		1.57		1.53		1.32		2.36

CENTRAL VIRGINIA ELECTRIC COOPERATIVE
NET ORIGINAL COST RATE BASE - PER BOOKS AND FULLY ADJUSTED
FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2017

Line No.	Description	(Col. 1) Total Cooperative Per Books	(Col. 2) Adjustments Due to Ratemaking Requirements	(Col. 3) Total Cooperative As Adjusted	(Col. 4) Non-Virginia Jurisdictional Business	(Col. 5) Virginia Jurisdictional Business	(Col. 6) Ratemaking Adjustments	(Col. 7) Amounts After Adjustments
	<i>Net Utility Plant</i>							
1	Electric Plant In Service	\$ 242,030,103	\$ -	\$ 242,030,103	\$ 3,768,213	\$ 238,261,890	\$ 7,184,385	\$ 245,426,276
2	Completed Construction not Classified	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	Construction Work in Progress	\$ 4,281,786	\$ -	\$ 4,281,786	\$ 62,287	\$ 4,219,499	\$ 886,233	\$ 5,057,732
4	Plant Held for Future Use	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Less: Accumulated Provision for Depreciation and Amortization	\$ (71,798,926)	\$ -	\$ (71,798,926)	\$ (1,151,747)	\$ (70,647,179)	\$ (3,453,751)	\$ (74,100,931)
6	Total Net Utility Plant	\$ 174,512,963	\$ -	\$ 174,512,963	\$ 2,678,753	\$ 171,834,210	\$ 4,548,867	\$ 176,383,077
	<i>Allowance for Working Capital</i>							
7	Cash Working Capital Purchased Power	\$ 1,637,951	\$ -	\$ 1,637,951	\$ 56,145	\$ 1,581,806	\$ 143,673	\$ 1,725,479
8	Other O&M	\$ 2,182,228	\$ -	\$ 2,182,228	\$ 34,290	\$ 2,147,938	\$ 177,857	\$ 2,325,795
9	Materials and Supplies (13-Month Average)	\$ 2,636,452	\$ -	\$ 2,636,452	\$ 41,100	\$ 2,595,352	\$ (194,541)	\$ 2,400,811
10	Other Working Capital	\$ 177,619	\$ -	\$ 177,619	\$ 2,769	\$ 174,850	\$ 12,588	\$ 187,438
11	Total Allowance for Working Capital	\$ 6,634,250	\$ -	\$ 6,634,250	\$ 134,304	\$ 6,499,946	\$ 139,576	\$ 6,639,522
	<i>Other Rate Base Deductions</i>							
12	Customer Deposits	\$ 1,341,636	\$ -	\$ 1,341,636	\$ 8,620	\$ 1,333,016	\$ (19,589)	\$ 1,313,427
13	Customer Advances for Construction	\$ 2,052,258	\$ -	\$ 2,052,258	\$ 13,185	\$ 2,039,073	\$ (52,754)	\$ 1,986,319
14	Other Cost Free Capital (FAS 106)	\$ 2,043,375	\$ -	\$ 2,043,375	\$ 27,510	\$ 2,015,865	\$ -	\$ 2,015,865
15	Total Other Rate Base Deductions	\$ 5,437,269	\$ -	\$ 5,437,269	\$ 49,314	\$ 5,387,955	\$ (72,343)	\$ 5,315,612
16	Total Rate Base	\$ 175,709,944	\$ -	\$ 175,709,944	\$ 2,763,743	\$ 172,946,201	\$ 4,760,787	\$ 177,706,988

CENTRAL VIRGINIA ELECTRIC COOPERATIVE
Case No. PUR-2018-00125

Reconciliation of Cooperative's and Staff's Revenue Requirement

Line No.	Description	Adjustment No.	Amount
1	Revenue Requirement Increase Per Company		\$ 4,967,015
	<u>Staff Adjustments - Schedule A</u>		
	<u>Revenues</u>		
2	Adjust for customer growth	3	\$ 132,086
3	Adjust for kWh growth	4	\$ (102,593)
4	Application of PCA to adjusted billing units	6	\$ 21,061
5	Adjustment to reflect CVSI related Other Revenues	24	\$ (498,219)
6	Non-recurring income adjustments	25	\$ 5,922
	<u>Purchased Power Expenses</u>		
7	To Adjust Purchased Power for Rate Change & Other Power Cost	6 & 7	\$ (25,614)
	<u>Other Expenses</u>		
8	Adjust bad debt expense	9	\$ (1,847)
9	Annualize payroll	10	\$ (121,082)
10	Annualize benefits and Payroll Tax	11	\$ (41,864)
11	Amortize rate case expenses	12	\$ (2,493)
12	Property Taxes	14	\$ (496)
13	Clear transportation	20	\$ (17,315)
14	Clear stores	21	\$ (5,340)
15	Normalize Right of Way Clearing	22	\$ (97,286)
16	Annualize depreciation	23	\$ 20,601
17	Interest on Long-term Debt	26	\$ (72,997)
18	Miscellaneous	n/a	\$ 5
19	Staff's Revenue Requirement Based on the Company's TIER of 2.19		\$ 4,159,553
20	Revenue Required to reflect a 2.34 TIER as shown in Staff's Statement I	n/a	\$ 807,461
21	Total Staff Revenue Requirement Per Statement I		<u>\$ 4,967,015</u>

Central Virginia Electric Cooperative
Case No. PUR-2018-00125

Detail of Ratemaking Adjustments

190230164

Adjustment No.					
Staff	Cooperative	Description	Staff	Cooperative	Difference
<u>Ratemaking Adjustments</u>					
1	1	Removal of revenue accrual	\$ (653,945)	\$ (653,945)	\$ -
2	2	Annualize rates to billing units	\$ 565,288	\$ 565,288	\$ -
3	3	Adjust for customer growth	\$ 553,316	\$ 685,412	\$ (132,096)
4	4	Adjust for kWh growth	\$ 2,089,936	\$ 1,997,343	\$ 102,593
5	5	Alignment of Transco kWh	\$ 134,804	\$ 134,804	\$ -
6	6	Application of PCA to adjusted billing units	\$ 5,744,061	\$ 5,765,122	\$ (21,061)
Total Revenue Adjustments			\$ 8,443,460	\$ 8,494,024	\$ (50,564)
7	7	To Adjust PCA for Rate Change	\$ 8,024,557	\$ 8,032,827	\$ (8,270)
8	8	Other Power Costs	\$ 67	\$ 17,411	\$ (17,344)
Total Purchased Power Expense Adjustment			\$ 8,024,624	\$ 8,050,238	\$ (25,614)
9	9	Adjust bad debt expense	\$ 44,528	\$ 46,375	\$ (1,847)
10	10	Annualize payroll	\$ 1,001,086	\$ 1,122,168	\$ (121,082)
11	11	Annualize benefits and Payroll Tax	\$ 290,039	\$ 331,903	\$ (41,864)
12	12	Amortize rate case expenses	\$ 71,349	\$ 73,842	\$ (2,493)
13	13	Annualize storm costs	\$ 179,684	\$ 179,684	\$ -
14	14	Property Taxes	\$ 93,047	\$ 93,543	\$ (496)
15	15	Fema Reimbursement	\$ 184,931	\$ 184,931	\$ -
16	16	One time Solar Expenses	\$ (17,718)	\$ (17,718)	\$ -
17	17	One time NRECA consulting fees	\$ (14,646)	\$ (14,646)	\$ -
18	18	Legal engagement	\$ (9,753)	\$ (9,753)	\$ -
19	19	Juris Cost Allocation Adjustment	\$ 4,705	\$ 4,705	\$ -
20	20	Clear transportation	\$ 7,857	\$ 25,172	\$ (17,315)
21	21	Clear stores	\$ -	\$ 5,340	\$ (5,340)
22	N/A	Normalize Right of Way Clearing	\$ (97,286)	\$ -	\$ (97,286)
Total Other O&M Adjustment			\$ 1,737,823	\$ 2,025,546	\$ (287,723)
23	22	Annualize depreciation	\$ 404,079	\$ 383,478	\$ 20,601
Total Depreciation Expense Adjustment			\$ 404,079	\$ 383,478	\$ 20,601

Witness: Morgan
Statement IV

10023014

24	N/A	Adjustment to reflect CVSI related Other Revenues	\$ 498,219	\$ -	\$ 498,219
25	23	Non-recurring income adjustments	\$ (26,861)	\$ (20,939)	\$ (5,922)
		Total Other Income Adjustment	\$ 471,368	\$ (20,939)	\$ 492,297
26	24	Annualize interest expense	\$ 149,238	\$ 182,538	\$ (33,300)
27	25	Remove LOC Interest	\$ (45,116)	\$ (45,116)	\$ -
		Total Interest on Long Term Debt Adjustment	\$ (45,116)	\$ (45,116)	\$ -

Rate Base

28	26	Update Plant to 9/30/18	\$ 4,548,867	\$ 2,079,260	\$ 2,468,607
29	27	Payroll and benefits to 107 construction	\$ -	\$ 529,532	\$ (529,532)
30	28	Clear transportation to 107 construction	\$ -	\$ 34,060	\$ (34,060)
31	29	Clear stores to 107 construction	\$ -	\$ 91,809	\$ (91,809)
32	30	Adjust provision for depreciation adjustment	\$ -	\$ (390,328)	\$ 390,328
33	31	Payroll and benefits to 108 retirement	\$ -	\$ 82,857	\$ (82,857)
34	32	Clear transportation to 108 retirement	\$ -	\$ 13,753	\$ (13,753)
35	35	Adj due to jurisdictional percentages	\$ (32,446)	\$ (32,446)	\$ -
36	36	Adj due to jurisdictional percentages	\$ (5)	\$ (5)	\$ -
		Total Net Utility Plant Adjustment	\$ 4,548,867	\$ 2,408,492	\$ 2,107,924
37	33	To adjust for expense adjustments	\$ 126,989	\$ 516,670	\$ (389,681)
		Total Allowance for Working Capital Adjustment	\$ 126,989	\$ 516,670	\$ (389,681)
38	34	Update Other Rate Base Deductions to 9/30/18	\$ (72,343)	\$ 641	\$ (72,984)
		Total Other Rate Base Deductions	\$ (72,343)	\$ 641	\$ (72,984)
		Total Rate Base Adjustments	\$ 4,603,513	\$ 2,925,803	\$ 1,645,259

APPENDIX B

ADJUSTMENT WORKPAPERS

190230164

CENTRAL VIRGINIA ELECTRIC COOPERATIVE
PUR-2018-00125
Revenue Adjustments

Line No.	Adj No.	Description	Amount
1	1	Remove Revenue Accrual	\$ (653,944)
2	2	Application of Present Rates to Billing Units	\$ 565,287
3	3	Customer Growth	\$ 553,316
4	4	kWh Growth	\$ 2,099,936
5	5	Alignment of Transco	\$ 134,804
6	6	WPCA Adj	\$ 5,744,061
7		Total Adjustments	\$ 8,443,460

Central Virginia Electric Cooperative
PUR-2018-00125
Summary of Revenue Adjustments

Line No	Rate Class	Average Meters	Annual kWh	Present Rates Per Books	Remove Revenue Accrual	Adj 1	Adj 2 Application of Present Rates to Booked Billing Units	Adj 3 Customer Growth	Adj 4 kWh Growth	Adj 5 Application of Adjusted WPCA to Adjusted TV Billing Units	Adj 6 Alignment of Transco kWh and Revenue with Adj. Power Cost	Adjusted Present
1	Farm and Home Service (Jurisdictional)	32,672	487,445,844	58,011,337	(517,173)		591,193	71,708	1,993,576	4,332,793	-	64,482,845
2	Farm and Home Service (Non-jurisdictional)	10	150,120	20,591	(1,671)		196	(3,437)	1,310	1,345	-	19,838
3	Total	32,682	487,595,964	58,031,928	(518,844)		591,390	68,271	1,994,886	4,334,138	-	64,502,683
4	General Services (Jurisdictional)	3,618	45,100,742	5,460,251	(36,255)		38,196	137,870	-	393,132	-	5,993,144
5	General Services (Non-jurisdictional)	196	3,148,179	374,973	(335)		38	(6,023)	-	27,810	-	399,078
6	Total	3,814	48,248,921	5,835,174	(36,590)		38,233	131,847	-	420,942	-	6,392,222
7	Large Power Service (Jurisdictional)	165	87,150,844	7,661,653	(14,258)		(12,944)	186,658	-	768,648	-	8,618,473
8	Large Power Service (Non-jurisdictional)	23	22,113,476	1,892,158	(1,835)		1,528	(6,805)	-	192,614	-	2,077,690
9	Total	188	109,264,320	9,553,811	(16,093)		(11,416)	179,853	-	961,262	-	10,696,163
10	Commercial and Industrial	3	92,897,200	2,218,261	(4,204)		4,299	143,298	-	281,778	-	2,653,431
11	Lighting Service (Jurisdictional)	4,921	3,374,522	602,577	-		1,023	-	-	23,075	-	631,675
12	Lighting Service (Non-jurisdictional)	37	26,467	4,704	-		(62)	-	-	231	-	4,874
13	Total	4,958	3,350,989	607,281	-		961	-	-	29,307	-	637,548
14	Transco	1	63,235,055	2,358,734	(110,030)		2,397	-	-	-	134,804	2,385,905
15	Total	41,646	744,592,449	78,615,389	(655,611)		625,865	525,214	1,994,836	6,027,427	134,804	87,267,923
16	WPCA Revenue			(1,711,608)	-		59,368	(14,105)	(106,460)	6,027,427	-	4,254,622
17	Base Revenue			80,326,997	(655,611)		566,497	539,319	2,101,296	-	134,804	83,013,301
18	Total (Non-jurisdictional)	229	25,438,242	2,292,376	(1,667)		1,701	(14,270)	1,310	222,000	-	2,501,450
19	WPCA Revenue			(63,318)	-		491	(273)	(50)	222,000	-	158,851
20	Base Revenue			2,355,694	(1,667)		1,210	(13,997)	1,360	-	-	2,342,599
21	Total (Jurisdictional)	36,458	655,919,152	76,323,013	(653,944)		624,164	539,484	1,993,526	5,805,426	134,804	84,765,473
22	WPCA Revenue			(1,648,290)	-		50,877	(13,832)	(106,410)	5,805,426	-	4,095,771
23	Base Revenue			77,971,303	(653,944)		565,287	553,316	2,099,936	-	134,804	80,670,702

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CENTRAL VIRGINIA ELECTRIC COOPERATIVE

Calculation of PCA Factor
Adjusted Test Year Power Cost and kWh Sold

Line No.	Item	Calculation
(a)	(b)	(c)
1	Total Purchased Power Cost (excluding Transco and Tanaska)	\$53,046,781
2	Total Load Management Credits	+ \$0
3	Under Recovery for Preceding 11-Month Period	+ \$0
4	Over Recovery for Preceding 11-Month Period	- \$0
5	Total Applicable Costs Recoverable in Current 11-Month Period	= \$53,046,781
6	Total kWh Sold (excludes Transco and Tanaska)	681,357,394
7	PCA Base	x \$0.07161
8	Total Revenue for Recovery of Applicable Cost Recovery in Base Rates	= \$48,792,003
9	Total Applicable Costs Not Recovered in Base Rates	\$4,254,778
10	Total kWh Sold (excludes Transco and Tanaska)	+ 681,357,394
11	PCA Factor	= \$0.00624
12	Curent Year Recovery Adjustment	+ \$0.00000
13	PCA Factor To Be Billed - Proposed	= \$0.00624

Central Virginia Electric Cooperative
Staff Adjustment No. 7
Power Cost

Line No.	Description	Amount
1	Adjusted Test Year Power Cost	55,430,289
2	Per Books Power Cost	<u>47,279,731</u>
3	Increase in Power Costs	8,150,558
4	Less: Non-Jurisdictional Amount	<u>126,001</u>
5	Jurisdictional Power Cost Adjustment	<u><u>8,024,557</u></u>

Central Virginia Electric Cooperative
Staff Adjustment No. 7
Power Cost Support

Line No.	Description	Per Books Purchased Power	Elimination of Deferred Power Costs	60-Day Reconciliation	Energy Sales Growth	Line Loss	NTS and RPM Billing Demand	Other Change	Power Supply Resource Changes	Total Power Cost
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	Dominion Area Contracts	19,286,317								
2	AEP Area Contracts	6,400,468								
3	Blue Creek	340,197								
4	Freemont	5,588,478								
5	SEPA	1,167,300								
6	Solar	37,756								
7	PJM	15,485,621								
8	60-Day PJM Reconciliation	511,009								
9	AMP Fee and AEP Scheduling	255,117								
10	Deferred Power Cost	(1,792,531)	1,792,531							
11	Total	47,279,731	1,792,531	316,222	788,035	(193,813)	4,302,322			
12	Jurisdictional	45,670,000	1,729,540	305,110	788,593	(185,042)	4,199,866			
13	Jurisdictional Separation Based On:									
14	Non-Jurisdictional	1,609,731	62,991	11,112	(558)	(8,771)	102,456			
15	kWh Purchases									
16	Jurisdictional	740,408,334	-	(377,594)	21,681,147	(4,994,171)	-			
17	Adjusted kWh	740,408,334	-	(377,594)	21,681,147	(4,994,171)	-			
18	Non-Jurisdictional	26,966,034	-	(13,766)	(15,333)	(243,875)	-			
19	Adjusted kWh	26,966,034	-	(13,766)	(15,333)	(243,875)	-			
20	Total System	767,374,368	-	(391,750)	21,665,814	(5,230,883)	-			
21	Adjusted kWh	767,374,368	-	(391,750)	21,665,814	(5,230,883)	-			
22										
23										

Notes:

- Adjustment to eliminate Deferred Power Cost
- Adjustment to reflect the 60-Day Reconciliation proper monthly alignment
- Adjustment reflects energy sales growth from F&H Jurisdictional, F&H Non-Jurisdictional and GS Jurisdictional
- Adjustment reflects change in PJM market purchase due to application of a 5.4% line loss to adjusted system kWh sales less Transco
- Adjustment reflects change in NTS and RPM billing demands for CY 2018
- Adjustments reflect changes in resources and wholesale prices for CY 2018

- a Priorated based on Per Books kWh purchased
b Priorated based on Per Books kWh purchased
c Jurisdictional F&H and GS kWh growth
d Jurisdictional based on change in purchases
e Based on 2017 Jurisdictional CP kW contribution to the NTS and RPM peaks
f Based on resource changes applied to adjusted test year Jurisdictional billing units

Central Virginia Electric Cooperative
Staff Adjustment No. 9
Bad Debt Expense

Line No.	Description	Amount
1	2013 A/R Write-offs Net of Collections	145,487
2	2014 A/R Write-offs Net of Collections	172,272
3	2015 A/R Write-offs Net of Collections	253,259
4	2016 A/R Write-offs Net of Collections	239,134
5	2017 A/R Write-offs Net of Collections	155,929
6	5 Year Total A/R Write-offs Net of Collections	966,081
7	2013 Revenues	77,047,177
8	2014 Revenues	82,610,251
9	2015 Revenues	83,905,975
10	2016 Revenues	81,304,283
11	2017 Revenues	77,959,777
12	5 Year Total Revenues	402,827,463
13	Bad Debt Expense Percentage (Line 6 / Line 12)	0.2398%
14	Total Rate Year Revenue	83,584,818
15	Rate Year Bad Debt Expense (Line 13 * Line 14)	200,457
16	Per Books Bad Debt Expense	155,929
17	Jurisdictional Adjustment to Bad Debt Expense	44,528

Central Virginia Electric Cooperative
Case No. PUR-2018-00125

For the Test Year Ended December 31, 2017
Payroll Adjustment

Adjustment No. 10

Line No.	Description	Regular	Overtime	Total
1	Annualized Payroll as of 9/30/18	\$ 9,053,901	\$ 485,852	\$ 9,539,753
2	Rate Year Performance Award (2% of Base)	\$ 181,078	\$ -	\$ 181,078
3	Annual Wage Increase Effective 7/1/19	\$ 90,539	\$ 4,859	\$ 95,398
4	Board Approved Management Wage Increase Effective 7/1/19	\$ 83,600	\$ -	\$ 83,600
5	SERP	\$ 26,261	\$ -	\$ 26,261
6	Rate Year Payroll	\$ 9,435,379	\$ 490,710	\$ 9,926,089
7	Test Year Payroll	\$ 7,975,427	\$ 414,946	\$ 8,390,373
8	Total Payroll Adjustment	\$ 1,459,952	\$ 75,764	\$ 1,535,716
9	Expense Percentage (Test Year)	66.20%	66.20%	66.20%
10	Total Payroll Expense Adjustment	\$ 966,462	\$ 50,155	\$ 1,016,617
11	Jurisdictional Factor	98.47%	98.47%	98.47%
12	Jurisdictional Payroll Expense Adjustment	\$ 951,698	\$ 49,388	\$ 1,001,086

**Central Virginia Electric Cooperative
Case No. PUR-2018-00125**

**For the Test Year Ended December 31, 2017
Benefits and Payroll Tax Adjustment**

Adjustment No. 11

<u>Line No.</u>	<u>Description</u>	<u>Amount</u>
10	Total Rate Year Benefit and Payroll Tax Costs	\$ 4,890,208
11	Less: Test Year Benefit Costs and Payroll Tax Costs	<u>\$ 4,445,274</u>
12	Total Benefits Adjustment	\$ 444,934
13	Expense Percentage	<u>66.20%</u>
14	Total Benefits Expense Adjustment	\$ 294,538
15	Jurisdictional Factor	<u>98.47%</u>
16	Jurisdictional Benefits Expense Adjustment	<u><u>\$ 290,039</u></u>

Central Virginia Electric Cooperative
Case No. PUR-2018-00125

For the Test Year Ended December 31, 2017
Benefits Workpaper

Adjustment No. 11

Line No.	Description	Amount
1	Healthcare Allowance	\$ 1,732,131
2	401k Matching	\$ 294,805
3	Disability and Life Insurance	\$ 119,829
4	Fica Taxes	\$ 574,034
5	Medicare Taxes	\$ 143,928
6	401k Safe Harbor (5% for Everyone)	\$ 580,458
7	401k Non-elective (Age/Years of Service)	\$ 872,759
8	Workers Comp. (6/1/18-5/30/19 Premium)	\$ 214,502
9	FAS 106	\$ 357,762
10	Total Rate Year Benefit Costs	\$ 4,890,208

Central Virginia Electric Cooperative
Case No. PUR-2018-00125

For the Test Year Ended December 31, 2017
Payroll Tax Workpaper

Line No.	Description	Amount	Total
1	Jurisdictional Payroll Expense Adjustment	\$ 9,926,089	
2	Percentage of Payroll Under Social Security Wage Base	93.28%	
3	Payroll Subject to Social Security Tax	\$ 9,258,618	
4	Social Security Tax Rate	6.20%	
5	Rate Year Social Security Tax Adjustment		\$ 574,034
6	Jurisdictional Rate Year Labor Expense Adjustment	\$ 9,926,089	
7	Medicare Tax Rate	1.45%	
8	Rate Year Medicare Tax Expense Adjustment		\$ 143,928
9	Rate Year Payroll Tax Expense Adjustment		\$ 717,963

Central Virginia Electric Cooperative
Staff Adjustment No. 12
Normalize Rate Case Expense

Line No.	Description	Amount
1	2014	5,036
2	2015	23,897
3	2016	13,350
4	2017	1,225
5	Total Regulatory Expense	43,508
6	Actual Rate Case Expense	197,950
7	Estimated Rate Case Expense	130,534
8	Total Rate Case Expense	328,484
9	Total Regulatory Expense	371,992
10	5-Year Average	74,398
11	Test Year Per Books Regulatory Expense	1,913
12	Adjustment	72,486
13	Less: Non-Jurisdictional Amount	1,136
14	Jurisdictional Adjustment	71,349

Central Virginia Electric Cooperative
Case No. PUR-2018-00125

For the Test Year Ended December 31, 2017
Property Tax Adjustment

Adjustment No. 14

Line No.	Description	Amount	Total
1	2017 Property Tax Expense	\$ 1,402,977	
2	Taxable Plant as of 12/31/2016	<u>\$ 233,604,128</u>	
3	Effective Property Tax Rate	0.6006%	
4	Taxable Plant as of 9/30/2014	<u>\$ 249,307,796</u>	
5	Rate Year Property Tax Expense		\$ 1,497,290
6	Test Year Property Tax Expense		<u>\$ 1,402,977</u>
7	Property Tax Expense Adjustment		94,313
8	Jurisdictional Factor		<u>98.66%</u>
9	Jurisdictional Property Tax Adjustment		<u><u>93,047</u></u>

**Central Virginia Electric Cooperative
Case No. PUR-2018-00125**

**Transportation Clearing
For the Test Year Ended December 31, 2017**

Adjustment No. 20

<u>Line No</u>	<u>Item (a)</u>	<u>Amount (b)</u>
1	Allocated from Property Tax Adjustment	\$ 7,639
2	Allocated from Annualize Payroll Adjustment	\$ -
3	Allocated from Annualize Benefits Adjustment	\$ -
4	Allocated form Annualize Depreciation Adjustment	\$ 13,463
5	Balance to allocate out of ac 1841 - Transportation	<u>\$ 21,102</u>
8	Amounts allocated to O&M	38.2% \$ 8,053
16	Less Other Power Costs	<u>\$ 67</u>
17	Adjustment to O&M	\$ 7,986
18	Less Non-Jurisdictional Adjustment	<u>\$ 129</u>
19	Jurisdictional Adjustment to O &M	<u>\$ 7,857</u>

**Central Virginia Electric Cooperative
Case No. PUR-2018-00125**

**Adjustment to Right of Way Expense
For the Test Year Ended December 31, 2017**

Adjustment No. 22

<u>Line No.</u>	<u>Description</u>	<u>Amount</u>
1	2015 ROW Clearing Expense	[a] \$ 2,234,348
2	2016 ROW Clearing Expense	[a] \$ 2,739,537
3	2017 ROW Clearing Expense	[a] \$ 2,638,604
4	Subtotal	\$ 7,612,489
5	Divided by: 3 Years	<u>3</u>
6	Rate Year ROW Clearing Expense	\$ 2,537,496
7	Test Year ROW Expense	<u>2,638,604</u>
8	Adjustment to ROW Clearing Expense	\$ (101,108)
9	Jurisdictional Factor #12	<u>96.22%</u>
10	Adjustment to ROW Clearing Expense	<u><u>\$ (97,286)</u></u>

[a] Data Request #20

Central Virginia Electric Cooperative
Case No. PUR-2018-00125

For the Test Year Ended December 31, 2017
Depreciation Adjustment

Adjustment No. 23

<u>Line No.</u>	<u>Description</u>	<u>Amount</u>
1	Depreciation Expense - Plant as of 9/30/18	\$ 7,164,420
4	Test Year Depreciation Expense	<u>\$ 6,753,401</u>
5	Total Depreciation Expense Adjustment	\$ 411,019
6	Jurisdictional Factor	<u>98.31%</u>
7	Juris. Depreciation Expense Adjustment	<u><u>\$ 404,079</u></u>

**Annualize Depreciation
Plant as of 9/30/2018**

Line. No.	Account (Col. a)	Description (Col. b)	9/30/18 Balance (Col. c)	Depreciation Rate (Col. d)	Depreciation Expense (Col. e)	Charged to Clearing (Col. f)
1	341.00	Hydro Generators	\$ 28,480	4.00%	\$ 1,138	
2	344.00	Hydro Generators	\$ 227,765	4.00%	\$ 9,101	
3	344.00	Solar Generators	\$ 20,283	5.00%	\$ 1,015	
4	344.00	Hydro Plant Upgrade	\$ 309,956	4.00%	\$ 12,386	
5	353.00	Substation Equipment	\$ 3,081,287	2.80%	\$ 86,153	
6	355.00	Poles and Fixtures	\$ 6,447,648	2.80%	\$ 180,276	
7	356.00	Overhead Conductors and Devices	\$ 4,189,472	2.80%	\$ 117,138	
8	362.00	Substation Equipment	\$ 27,372,311	2.80%	\$ 766,425	
9	362.01	Substation Equipment - AMR	\$ 1,366,623	6.67%	\$ 91,154	
10	362.02	Substation Equipment - SCADA	\$ 1,218,766	6.67%	\$ 827	
11	364.00	Poles Towers and Fixtures	\$ 35,674,443	3.20%	\$ 1,141,582	
12	365.00	Overhead Conductors and Devices	\$ 47,430,664	2.50%	\$ 1,185,767	
13	366.00	Underground Conduit	\$ 5,435,343	1.80%	\$ 97,836	
14	367.00	Underground Conductors and Devices	\$ 27,259,023	2.80%	\$ 763,253	
15	368.00	Line Transformers	\$ 27,624,402	2.80%	\$ 773,483	
16	369.00	Services	\$ 19,063,154	3.30%	\$ 629,084	
17	370.00	Meters	\$ 10,061,549	3.00%	\$ 301,846	
18	371.00	Installation On Customer Premises	\$ 1,293,313	4.00%	\$ 51,733	
19	371.03	Disconnect Collars	\$ 228,927	10.00%	\$ 22,884	
20	390.00	Structures and Improvements	\$ 10,587,877	2.51%	\$ 266,151	
21	391.00	Office Furniture and Equipment	\$ 202,231	15.36%	\$ 31,071	
22	391.10	Computer Equipment and Software	\$ 1,853,059	20%-33%	\$ 324,359	
23	392.00	Cars and Trucks	\$ 1,981,515			\$ 179,636
24	393.00	Stores Equipment	\$ 98,428	4.50%	\$ 4,429	
25	394.00	Tools, Shop and Garage Equipment	\$ 925,368	4.50%		\$ 41,656
26	395.00	Laboratory Equipment	\$ 286,064	4.50%	\$ 5,565	
27	396.00	Power Operatied Equipment	\$ 5,877,337			\$ 506,110
28	397.00	Communication Equipment	\$ 2,580,556	7.64%	\$ 197,122	
29	397.10	.SCADA	\$ 33,851	10.00%	\$ 3,384	
30	398.00	Misc General Expenses	\$ 378,180	20.00%	\$ 40,289	
31	303.10	Misc Intangible Assets	\$ 128,664	3.34%	\$ 4,292	
32	303.20	Misc Intangible Assets	\$ 133,494	2.75%	\$ 3,668	
33	303.30	Misc Intangible Assets	\$ 1,856,243	2.75%	\$ 51,010	
34		Total			\$ 7,164,420	\$ 727,402

Central Virginia Electric Cooperative
Case No. PUR-2018-00125

Adjustment to Other Income to Recognize Rate Year CVSI Revenue
For the Test Year Ended December 31, 2017

Adjustment No. 24

Line No.	Description	Amount
1	Rate Year Budgeted CVSI Invoices (2019 Budget)	\$ 505,948
2	Jurisdictional Factor (Payroll)	98.47%
3	Jurisdictional Adjustment to Interest Income	<u>\$ 498,219</u>

Central Virginia Electric Cooperative
Staff Adjustment No. 25
Non-Recurring Income

Line No.	Description	Amount
1	Net Gain on Disposition of Property (Acct 421.1 and 421.2)	(27,685)
2	Non-Operating Income Adjustment	(27,685)
3	Less: Non Jurisdictional Amount	(824)
4	Jurisdictional Adjustment	<u>(26,861)</u>

Central Virginia Electric Cooperative
Case No. PUR-2018-00125

Adjustment to Interest on Long-Term Debt
For the Test Year Ended December 31, 2017

Adjustment No. 26

Line No.	Description	Amount
1	Jurisdictional Rate Year Interest on Long-Term Debt (Staff Witness Maggi)	\$ 4,783,541
2	Less: Test Year Jurisdictional Interest on Long-Term Debt	<u>\$ 4,634,303</u>
3	Jurisdictional Adjustment to Interest on Long-Term Debt	<u><u>\$ 149,238</u></u>

Central Virginia Electric Cooperative
Case No. PUR-2018-00125

For the Test Year Ended December 31, 2017
Rate Base

Line No.	Description	As of 12/31/2017	As of 9/30/2018	Adjustment	Jurisdictional Factor	Jurisdictional Adjustment
1	Utility Plant in Service	\$ 242,030,103	\$ 249,307,796	\$ 7,277,693	98.44%	\$ 7,164,385
2	CWIP	\$ 4,281,786	\$ 5,132,393	\$ 850,607	98.55%	\$ 838,233
3	Accumulated Depreciation	\$ (71,798,926)	\$ (75,308,983)	\$ (3,510,057)	98.40%	\$ (3,453,751)
4	Net Utility Plant	\$ 174,512,963	\$ 179,131,206	\$ 4,618,243		\$ 4,548,867

APPENDIX C

ATTACHMENTS

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56) Please refer to the final order in PUR-2018-00118, appendix paragraph 5. Please provide a written narrative detailing how the Cooperative plans to comply with this section of the Commission's order.

5. The Applicants shall be required to maintain records demonstrating that the services provided by CVEC to CVSI, and the services provided by CVSI to CVEC, under the Agreements are cost beneficial to the members of CVEC. Records of such investigations and comparisons shall be available for Staff review upon request. CVEC shall bear the burden of proving, in any rate proceeding, that it charged the higher of cost or market for all services provided to CVSI, and paid the lower of cost or market for all services received from CVSI, pursuant to the Agreements.

When the need for services arise and no less than annual thereafter for ongoing services, CVEC will perform market comparisons where markets exist for the services. CVEC will also calculate the actual cost for the services. CVEC will keep records of the investigation and the comparison of actual to market for all services provided by CVEC to CVSI.

When the need for services arise and no less than annually thereafter for ongoing services, CVSI will be required by CVEC to provide actual cost of services provided. CVEC will review market options to determine if there are lower cost options and will choose whether to purchase from CVSI, then will require the lower of cost or market charges for the service. Records of these comparison will be documented and records kept.

**HUNTON
ANDREWS KURTH**

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2018 JUL 17 A 11: 52

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TIMOTHY E. BILLER
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FILE NO:

July 17, 2018

By Hand

PUBLIC

Hon. Joel H. Peck, Clerk
State Corporation Commission
Document Control Center
Tyler Building, 1st Floor
1300 East Main Street
Richmond, Virginia 23219

**JOINT APPLICATION OF
Central Virginia Electric Cooperative and Central Virginia Services, Inc.
for approval of affiliate arrangements
Case No. PUR-2018-00 113**

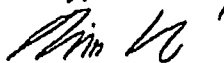
Dear Mr. Peck:

Enclosed for filing please find one unbound original and one copy of the **PUBLIC** version of the Joint Application of Central Virginia Electric Cooperative and Central Virginia Services, Inc. for approval of affiliate arrangements.

I am also filing under separate cover an original and 15 copies under seal of the Confidential version of the Joint Application as well as a Motion for Protective Ruling.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Timothy E. Biller

TEB/hll
Enclosure

cc: William H. Chambliss, Esq.
C. Meade Browder, Jr., Esq.

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APPLICATION OF

CENTRAL VIRGINIA

ELECTRIC COOPERATIVE

AND

CENTRAL VIRGINIA

SERVICES, INC.

For approval of affiliate arrangements

Case No. PUR-2018-00113

Pursuant to Chapter 4 of Title 56 of the Code of Virginia (the “Affiliates Act”), Central Virginia Electric Cooperative (“CVEC” or “Cooperative”) and its subsidiary, Central Virginia Services, Inc. (“CVSI”) (collectively, the “Applicants”), hereby request approval from the State Corporation Commission to enter into the affiliates arrangements described herein and in the Transaction Summary attached hereto as Attachment E. Approval of the affiliate arrangements will permit CVEC and CVSI to establish a fiber optic network to improve CVEC’s ability to control and monitor its electric distribution system while also providing CVEC’s members with access to high-speed broadband internet access and related services in its service territory, providing benefits to CVEC’s entire service territory as well as to CVEC and its members. The Applicants request that the Commission review this Application on an expedited basis so that CVSI and CVEC may begin operating under these arrangements by the middle of September 2018 to coincide with CVEC’s anticipated start of construction.

The Applicants

CVEC is a member-owned, electric distribution cooperative that provides retail electric service to over 36,733 accounts in its certificated service territory in portions of 14 Virginia counties: Albemarle, Amherst, Appomattox, Augusta, Buckingham, Campbell, Cumberland, Fluvanna, Goochland, Greene, Louisa, Nelson, Orange, and Prince Edward. CVEC's principle offices are located at 800 Cooperative Way, Arrington, Virginia 22922. CVEC currently owns and operates an electric distribution system consisting of approximately 4,600 miles of transmission and distribution line.

CVSI is a Virginia Corporation and a wholly-owned subsidiary of CVEC that was formed to engage in unregulated business activities.¹ CVEC and CVSI are affiliated interests within the meaning of Va. Code § 56-76 of the Affiliates Act. In Case No. PUA-1998-00019, the Commission approved a management services agreement between CVEC and CVSI through which CVEC has provided management and other services to CVSI since its approval.²

Background

The arrangements described in this Application will enable CVEC and CVSI to deploy and maintain a fiber optic broadband network in and around CVEC's primarily rural service territory. This project originated as a means to solve the dual needs of the Cooperative and its members: to allow CVEC to securely and reliably communicate with its substations and other electrical devices on its system while at the same time meeting the unserved and underserved need for high-speed Internet access in and around CVEC's rural service territory.

¹ CVSI will provide the broadband services described in this application under a doing business as designation as "Firefly Fiber Broadband."

² Order Granting Approval, *Application of Central Virginia Electric Cooperative, For approval of transactions with affiliate*, Case No. PUA-1998-00019, 1998 S.C.C. Ann. Rep. 193 (Aug. 18, 1998).

There is a substantial need to improve communications capabilities throughout CVEC's distribution system and throughout its service territory in general. CVEC often struggles to communicate with many portions of its system and currently has hundreds of locations in its system with which it has no ability to communicate with its equipment remotely. This problem is most prominent in the majority rural areas of CVEC's service territory and results in additional fieldwork for CVEC employees to gather meter reads manually and make visits to substations to gather SCADA data, which impacts efficiency and increases CVEC's cost of service. Where CVEC does have remote communication capabilities, this currently occurs through an amalgam of various communications systems, primarily unreliable or slow DSL, costly wireless (cellular) connections and fixed wireless radio, which has limited bandwidth and is difficult to deploy reliably in the rolling terrain and heavy foliage of central Virginia. As a result, CVEC is incapable of fully integrating a variety of smart grid technologies and other advanced technologies that require more bandwidth than is available through CVEC's current internet service providers. Further, these networks are public and unsecure.

The Cooperative needs to improve communications speeds and bandwidth to its substation to allow for better equipment control and monitoring as well as for improved security. With the addition of a fiber network, CVEC will be able to backhaul more data from throughout its distribution system. This will allow CVEC to better incorporate smart grid technology into its daily operations, improve the integration of a growing number of distributed energy resources located throughout its service territory, and help lower power costs to its members through interactive energy management programs. Downline equipment, including reclosers, regulators, capacitor banks, automatic switches, voltage meters, all will provide better and more timely information through broadband connections. The immediate benefits for CVEC's members will

be improved reliability and reduced power costs. In the longer term, a system-wide broadband network will provide the platform for next generation electric distribution smart grid applications, including integration of more advanced distributed generation resources and battery storage. In addition, the high-speed fiber optic network will enable CVEC to enhance the security of its distribution system, including through the deployment of live security monitoring at its substations and allowing for the implementation of other security measures that may be implemented over time.

Beyond CVEC's own internal communication challenges that will be addressed through this project, CVEC's members throughout its service territory are significantly underserved for broadband internet connectivity. There are few locations within CVEC's service territory where CVEC's members have access to reliable broadband internet service of any sort, particularly any offerings that are of a comparable price and quality to that available in urban and suburban America. Indeed, over 70% of locations within CVEC's service territory lack access to high-speed internet.³ Access to reliable, high-speed internet is quickly becoming an essential part of the everyday lives of the Cooperative's members and is critical for ensuring that CVEC's service territory remains a viable location for existing businesses to operate and expand as well as to attract new businesses.

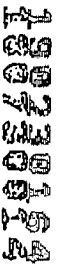
CVEC has worked for many years to attempt to address this unmet need in its service territory. When CVSI was first formed, one of its first offerings was dial-up internet service due to the lack of dial-up availability in the area. The service was well received with over 2,500 accounts connected by 2005 and remained in operation until the service was sold to a third party in 2009. In addition to this offering, CVEC has pursued several other options for delivering high speed internet service to all of its members. In 2004, CVEC entered into a partnership with an

³ Using the Federal Communication Commission's high-speed fixed broadband internet connection benchmark.

unaffiliated company to allow that company to use broadband over power line (“BPL”) technology to deliver high speed internet access to CVEC’s members. That company worked for three years to perfect field application of the technology that had been lab proven, but ultimately could not provide reliable BPL communications at high speeds due to electric noise on the rural distribution lines.

CVEC has also offered to allow other companies to attach to CVEC’s poles without pole attachment fees for the life of the project, if the companies would provide universal high speed internet access to CVEC members. This offer was made informally several times from 2011 through 2015. The offer was formalized in a Request For Information (“RFI”) in 2016. CVEC did not receive any valid responses to this RFI.

In August 2017, CVEC engaged Conexon, LLC (“Conexon”) to investigate the feasibility of developing and deploying a secure substation communications and fiber to the home (“FTTh”) network throughout CVEC’s service territory. As part of the feasibility study, Conexon formally examined internet availability within CVEC’s service territory and confirmed that there are extremely limited options for CVEC members seeking fiber connectivity on the open market. The Conexon study concluded that CVEC and CVSI feasibly could construct a fiber system and that there was sufficient demand for broadband connectivity to support the project and generate sufficient revenue. As discussed below, this study was conducted without including any outside funding or subsidies and used conservative estimates for the revenue to be generated from the project. Given the outside funding that already has been committed and the likelihood of additional revenue, CVEC anticipates that the project will be more successful than shown by the feasibility study.



The Substation and FTTh Network

CVEC will construct and own the fiber network and plans on completing the network in phases over a five-year period, with the ultimate goal of building the network to securely communicate with all of CVEC's substations and network equipment, as well as make FTTh available to all CVEC members. Overall, the project will consist of approximately 3,474 miles of fiber optic cable, based in a core ring configuration with protected and scalable paths between core routers. CVSI will utilize gigabit passive optical network ("GPON") technology to light the network, an industry standard technology for FTTH deployment. CVEC plans to install a telecommunications building at each substation and will include Calix E7 GPON access equipment connected via the fiber optic cable on transmission or distribution lines.

Each phase of the project will entail building out from one of the Cooperative's main substations to integrate that substation and the surrounding area into the overall fiber network. The first phase of the project will include building out from four substations. The Cooperative plans to complete construction for the first phase within the first year of the project at a cost of approximately \$21.2 million. The first substation area in which the fiber plant will be constructed will be the Cooperative's Appomattox delivery point and will cost approximately \$4 million in total, \$1 million of which will come from a grant made by the Tobacco Region Revitalization Commission ("TRRC"). In addition, Appomattox County has provided for economic incentive payments that will be roughly the equivalent of the property taxes paid on the new fiber plant for the first five years.

The second substation build will be located in northern Nelson County. In 2010, Nelson County began development of a broadband network within the county, which currently consists of 75 miles of fiber and is owned and operated by the County. CVEC is working with Nelson

County, who plans to transfer this fiber network to CVEC at no cost, to incorporate the existing Nelson County network into CVEC's network. CVSI will take over the approximately 600 customers in place on that system and expand the network to offer service to all members served off the Cooperative's Martins Store substation in Nelson County.

CVEC will continue building each phase of the project until the network is able to provide communications throughout the Cooperative's system and it is sufficient to make service available to all CVEC members. The CVEC fiber network primarily will be built to follow the Cooperative's existing primary distribution lines. The majority of the fiber will be built using aerial construction methods, with approximately 21% of the network to be built underground. CVEC intends to use existing fiber and conduit systems where available to complete the network.

CVSI Services

CVEC will lease the fiber and network equipment to CVSI under a fiber optic lease agreement, a draft of which is attached hereto as Attachment B. CVSI, d/b/a Firefly Fiber Broadband, will operate and maintain the network, as well as utilize the network to provide residential and commercial voice and broadband internet services to CVEC and other subscribers. The project will make 1 gigabit per second speed broadband available to every home and business in the service area. Customers can also choose a lower basic level of 100 megabits per second. Both of the services are symmetrical, with the same upload and download speed. Voice services will be provided through voice over internet protocol ("VoIP"). Customers will be able to subscribe to broadband-only service, or bundle broadband with VoIP services. CVSI also will offer business services, such as co-location, secure point-to-point service, and static IP. In addition to offering the fastest speeds available, CVSI's pricing strategy

is intended to be more cost effective than alternative options in the area and offer more reliable service.

Project Funding

The Cooperative's feasibility study and decision to pursue the project was made without factoring in the availability of any subsidies. Based on conservative estimates for costs of constructing the system and take rates, Conexon concluded in the feasibility study that CVSI will become profitable in year seven on an annual basis and will reach breakeven, paying off its early losses, in year eleven of the project. This projection includes no subsidy of any form. CVEC is pursuing a variety of options to further strengthen the financial model for the project and reduce the time in which CVSI is anticipated to become profitable and begin to pay back early losses. The Applicants' intention for the project is that CVSI will carry all development losses while CVEC is cash flow positive in year 1. The \$20 to \$25 million in outside support that CVEC is currently pursuing, as discussed below, will reduce risk significantly and create the likelihood of positive cash flows beginning in calendar year 2019 for CVSI.

CVEC already has received significant outside funding commitments and anticipates additional funding commitments to be received as the project progresses. As discussed above, the TRRC has awarded CVEC a \$1 million grant toward the first phase of the project. In addition, Appomattox County has approved an economic incentive equal to the first five years of property taxes attributable to the network facilities, which will be paid out over the first five years that the infrastructure is in service. CVEC is exploring potential assistance from the other counties in its service territory, including up front contributions, cash flow support, or in kind services to offset project costs. CVEC has set a goal of receiving outside support to offset 20-25% of the total project construction cost through a combination of grants, incentive payments,

government communications contract commitments, in kind services, etc. All of the counties in CVEC's service territory have expressed an interest in providing some form of support and CVEC is working with each one individually to find the best solutions available for that locality.

CVEC also has pursued funding through the Rural Utility Service ("RUS") Community Connect grant program. CVEC recently submitted a grant application to RUS for its Pamplin and Curdsville delivery points, seeking \$3 million in funding for the buildout surrounding those substations. In addition, CVEC intends to pursue additional grant and/or loan opportunities through RUS, Go Virginia, and the TRRC.

CVEC also intends to pursue additional sources of outside funding as discussed further in the Transaction Summary attached hereto as Attachment E.

Affiliate Arrangements

In order to implement this project, the Applicants seek approval from the Commission for multiple affiliate arrangements:

1. **Management Services Agreement.** CVEC and CVSI will enter into a revised version of the management services agreement previously approved by the Commission.⁴ This agreement has been revised and updated to reflect additional services that will be needed by CVSI in connection with the fiber system. Through the agreement, CVEC will continue to provide management, administrative, and operational services to CVSI to support its operations. In addition, CVSI will lease unused office space from CVEC for certain operational and customer service functions and for CVSI employees.

⁴ *Application of Central Virginia Electric Cooperative, For approval of transactions with affiliate*, Case No. PUA980019, 1998 S.C.C. Ann. Rept. 193-94 (Aug. 18, 1998).

2. **Fiber Optic Lease Agreement.** As discussed above, CVEC will lease its fiber network to CVSI, which will maintain and operate the Network. CVSI will utilize CVEC's fiber network to provide all substation communication and other services to CVEC and to provide FTTH services to customers. CVSI will remit a monthly lease payment to CVEC for use of the network.
3. **Broadband Network Services.** In addition to CVEC homes and residences, the Cooperative itself will be a consumer of broadband services from CVSI at its offices, its substations and downline equipment locations. CVEC will receive these services from CVSI generally on the same terms as other customers, as detailed in the **confidential** subscriber agreement included as Attachment C of this Application.⁵
4. **Line of Credit Agreement.** CVEC and CVSI will enter into a \$10 Million short-term line of credit agreement to provide working capital to CVSI on an as needed basis.

The Affiliates Act provides for Commission exemption or approval of contracts or arrangements between public service companies and their affiliates for management, supervisory, construction, engineering, accounting, legal, financial, and other similar services and for the purchase, sale, lease or exchange of any property, right or thing. Va. Code § 56-77. The Applicants ask the Commission to approve the Agreements and other arrangements described herein as they will facilitate the development and implementation of the network in order to meet the Cooperative's need for improved communications and its member's need for reliable, high-speed internet access and accordingly is in the public interest. Moreover, as

⁵ The rates provided in the confidential subscriber agreement are preliminary and CVEC will continue to review these rates to ensure that CVSI is recovering its costs without providing a subsidy from CVEC.

demonstrated by this Application, the Applicants have developed a feasible plan for developing the network and providing the broadband services to ensure that this project is a success and will not have any substantial negative impact on the Cooperative or the rates it charges its members. In addition, CVEC is pursuing significant funding from third parties that will help offset the costs of the project and further protect its members from any negative impacts of the project.

Attached to this Application, are the following exhibits:

CONFIDENTIAL Attachment A: Proposed **confidential** Management Services Agreement between CVEC and CVSI.

CONFIDENTIAL Attachment B: Proposed **confidential** Fiber Optic Lease Agreement between CVEC and CVSI.

CONFIDENTIAL Attachment C: Proposed **confidential** Subscriber Agreement (Application for Fiber Optics Communications Service) and associated term of service between CVEC and CVSI.

CONFIDENTIAL Attachment D: Proposed **confidential** Line of Credit Agreement between CVEC and CVSI.

Attachment E: Transaction Summary, which details the arrangements contemplated between CVEC and CVSI.

Attachment F: Accounting procedures.

WHEREFORE, CVEC and CVSI respectfully request that the Commission grant approval for the affiliate arrangements described herein pursuant to Virginia Code § 56-76 *et seq.* as well as any other approvals that the Commission deems necessary or appropriate to implement the project described herein. Additionally, the Applicants request that the

Commission review and consider this Application on an expedited basis to permit Applicants to operate under the referenced arrangements by the middle of September 2018.

July 17, 2018

Respectfully submitted,

CENTRAL VIRGINIA ELECTRIC
COOPERATIVE

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CERTIFICATE OF SERVICE

I hereby certify that on this 17th day of July 2018, a true copy of the foregoing Application of Central Virginia Electric Cooperative was delivered by hand or mailed, first-class postage prepaid, to the following:

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By Counsel

APPENDIX D

CONFIDENTIAL ATTACHMENTS